TNS-100
IP Streamer – DVB-T FTA to IP multicast

Multicast streamer for IP broadband networks. Up to eight simultaneous DVB-T terrestrial digital television programs for Free-To-Air (FTA) encoded for streaming over IP multicast networks.

Designed and manufactured by Messrs Ikusi of Spain. Sold and supported by Teletechnique Beechmont in Queensland.

IKUSI
trustworthy solutions

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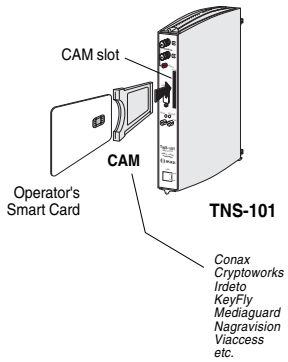
▶ LANTV (Television on IP Networks)

«TNS» — DVB-T to IP Streaming Equipment

DVB CE

TNS-100

TNS-101



DVB-T → IP Streamers

Model			TNS-100	TNS-101
Référence			5102	5114
Reception			DVB-T FTA	DVB-T FTA or MultiCrypt (Common Interface - EN 50221)
Maximum number of de-encrypted services			—	Variable (CAM depending)
SNMP Support — "traps"			Yes	Yes
Input Section (COFDM)	Frequency range	MHz	174 - 230 and 470 - 862	
	Frequency selection steps	kHz	125	
	Input level	dBµV	35 ... 100	
	Input loop-through gain	dB	0.5 (±1)	
Output Section (IP)	Standard		IEEE 802.3 10/100 BaseT	
	Bit rate	Mbps	up to 100	
	Transmission protocols		UDP / RTP	
	No. of simultaneous streams		up to 8	
	Multicast		Yes	
Connectors	RF input (loop-through)		(2x) female F	
	DC connection		"banana" socket	
	CAM entrance		—	slot
	Configuration		RS 232 / DB-9	
	Ethernet output		RJ-45	
General	Supply voltage	VDC	+12	
	Consumption	mA	420	550 (CAM included)
	Indicator leds		ON - STATUS - LINK - ACT	
	Operating temperature	°C	0 ... +45	
	Dimensions	mm	230 x 195 x 32	

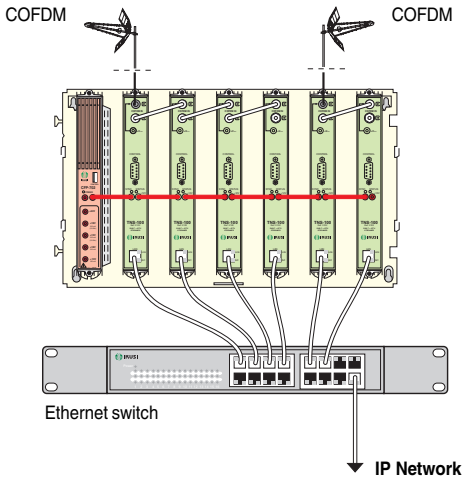
- Each module is packed with:
  - 1 F plug bridge, 64 mm length, for input tap line.
  - 1 DC plug bridge, 53 mm length, for connection of +12 VDC voltage.

TNS Headends

A TNS headend for DVB-T to IP streaming includes:

- As many TNS-100 or TNS-101 Streamers as there are DVB-T channels whose programmes you want to broadcast on the IP network. The TNS-101 features Common Interface to be utilized when the DVB-T channel includes one or more encrypted programmes that one want to de-encrypt; a CAM (Conditional Acces Module) containing an *Operator's Smart Card* must fit the front panel slot. CAM modules are not supplied by IKUSI.
- One or more CFP Power Supplies.
- One or more Rack-frames or Baseplates. The baseplates can be joined horizontally.
- Usually, one housing unit.

The TNS modules have two directionally coupled input ports that facilitate simple connection of the incoming COFDM-modulated signal using the plug bridges supplied. For power connection each module has two DC banana sockets that allow to build the +12 VDC cascade from the power supply module. A third banana socket is available to connect the power for an optional mast-head preamplifier.



— **Example of TNS headend for six digital terrestrial TV channels. Contains 6 TNS-100 streamers and 1 CFP-500 power supply, all fixed on 1 BAS-700 baseplate.**

This headend can feed the IP network with up to 48 TV programmes (8 programmes at the most per streamer).

LANTV

Television on IP Networks

TNS-100 (Ref. 5102)

DVB-T → IP Streamer

Configuration and Settings

User Manual

IKUSI

EN

Configuration and Setting of the TNS-100 Streamer Module

User Manual

November 2008
Revision B

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CONTENTS

Introduction 4
- This Manual 4
- Product Description 4

Chapter One - Configuration of the TNS-100 Streamer 5
- Configuration ..... 6 -10
- Save/Restore Configuration 11
- General Report 12

Chapter Two - TNS-100 Streamer Settings 13
- Input Settings 14
- Output Settings 15-17
- SAP Channel Settings 18
- SNMP Cofguration 19/20

Chapter Three - TNS-100 Streamer Status Information 21
- Status Information 22

Chapter Four - TNS-100 Streamer Reports 23
- Input Services 24
- Output Streams 25
- System Logs 26

Introduction

This Manual

This manual describes the configuration and settings programme for the TNS-100 Streamer Module. It is the second part of the user documentation for said module, the first part of which is the Installation and Access manual supplied in paper format.

Product Description

TNS-100 streamers are DVB-T to IP gateways designed to broadcast in multicast the services (TV and Radio programmes) from a digital terrestrial reception on an IP network. The IP streams can be viewed using an IPTV set-top box or a software video player.

TNS-100 modules have an IKUSI ClassA mechanical format. As such, they are fixed to BAS-700 / BAS-900 baseplates or to an SMR-601 rack frame, and are +12 VDC powered from a CFP module.

Characteristics

- Input: 1 DVB-T transport stream (MPTS). Output: up to 8 simultaneous, IP-encapsulated services (TV programmes), with individual multicast addresses.
- Information filtering of DVB tables.
- UDP & RTP transmission protocols.
- Web interface for configuration and setting.
- Alarm information SNMP agent.
- SAP & SDP protocols that facilitate automatic service selection on the user's STB and provide information to external servers.

ADVANCED
PID filtering
PSI/SI parsing
Transparent ECM & EMM messaging
PAT and PMT table regeneration
Routing or blocking for CAT, NIT, SDT, EIT, TDT tables
Configurable QoS marking
Configurable Time To Live

When a connection is established between the TNS-100 streamer and the control PC, the programme access screen will appear:

Program Access Screen

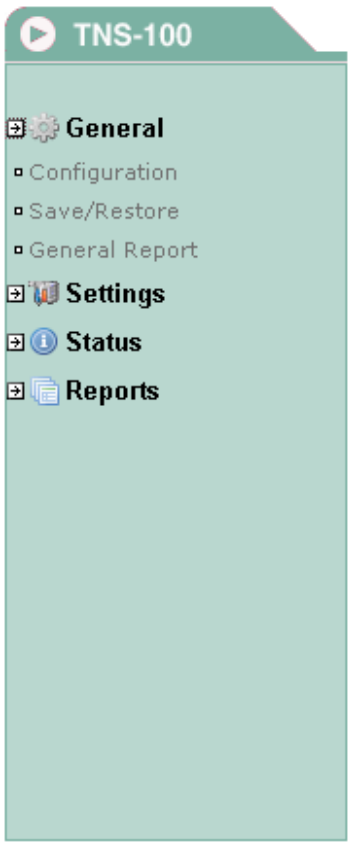
Once the desired programme language has been chosen [Spanish (es), English (en), French (fr)], enter the password and click on *OK.*

Note: The default password — admin — can (and must) be changed as explained on page 9.

Chapter One - Configuration of the TNS-100 Streamer

In this Chapter

- Configuration
- Save/Restore
- General Report



General Configuration

Initial program screen

The first screen that appears when the programme is accessed contains the "Output" window, which gives information on the IP streams that have been created on the module and which may or may not be incorporated into the output data stream.

On the left of this screen are the menus that access all of the programme's functionalities.

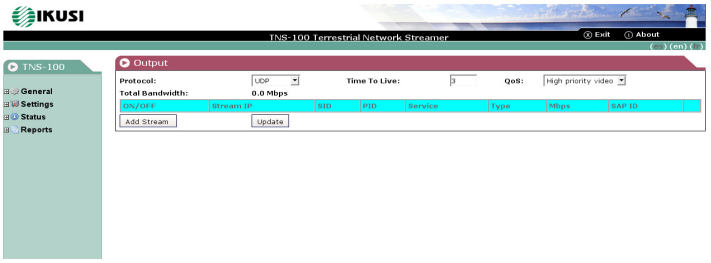


Figure 1.1 - Initial programme screen

Click on the **General** menu on the left of the screen to display a dropdown list containing the 3 options: *Configuration, Save/Restore* and *General Report*.

Click on *Configuration.* The Configuration window will appear :

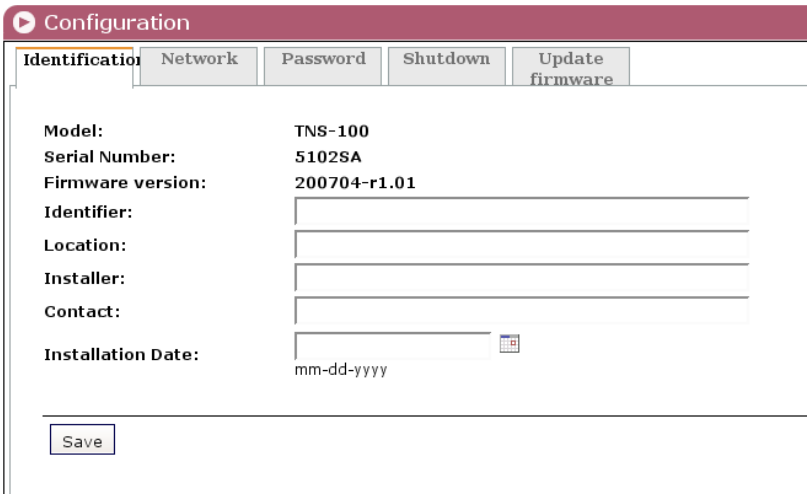


Figure 1.2 - Identification card of the Configuration window.

Identification

The identification card (Figure 1.2) provides basic data on the TNS-100 streamer. The different card fields are completed as follows:

"Model": TNS-100. This data cannot be changed.

"Serial Number": Informational data which cannot be changed.

"Firmware Version": As above.

"Identifier": Any name that the installer or operator wishes to assign to the streamer module can be entered here.

"Location": Enter the postcode of the installation site if required.

"Installer": The installer's identification details can be entered here.

"Contact": Then enter their contact details (telephone number, email).

"Installation date": The date on which the streamer module was installed can be entered here.

Click on the *Save* button at the bottom of the window to store the information on the streamer module, this information is then shown each time the module is accessed.

Network

Click on the Network tab to configure the streamer's ethernet connection parameters. The following card is displayed:

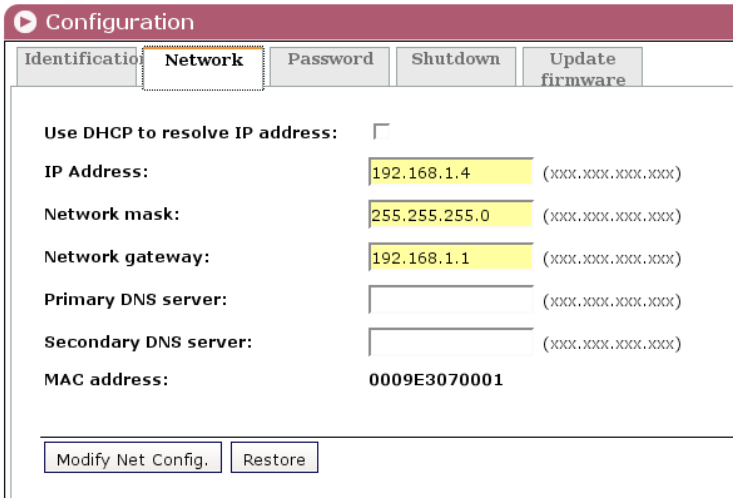


Figure 1.3 - Network card of the Configuration window.

"Use DHCP to get IP address": If this box is checked, the TNS-100 module will use the DHCP protocol for assigning dynamic IP addresses. Consequently, no data needs to be entered in the next five fields on the tab.
If the administrator of the network on which the TNS headend is installed assigns static IP addresses, the box will not be checked and the following fields will need to be filled in.
WARNING: If this option is activated, the IP address assigned to the streamer can only be known by consulting the DHCP server management system.

"IP Address": Enter the IP address that you wish to assign to the streamer. This address must fall within the range of local network addresses.

"Network mask": Enter the local network mask.

"Default gateway": Enter the IP address of this gateway. This information is only required if you want the streamer to access Internet.

"Primary DNS server": Enter the primary server's IP address. Equally, this information is only required if you want the streamer to access Internet.

"Secondary DNS server": Enter the same information for the secondary server.

"MAC Address": The physical address of the streamer's ethernet network card is displayed automatically.

Once you have filled in all of the required information, click on *Modify Network Configuration*. If, at the last moment, you decide to keep the current settings, click on *Restore*.

Password

If you want to change the current access password, click on the Password tab. The following card is displayed:

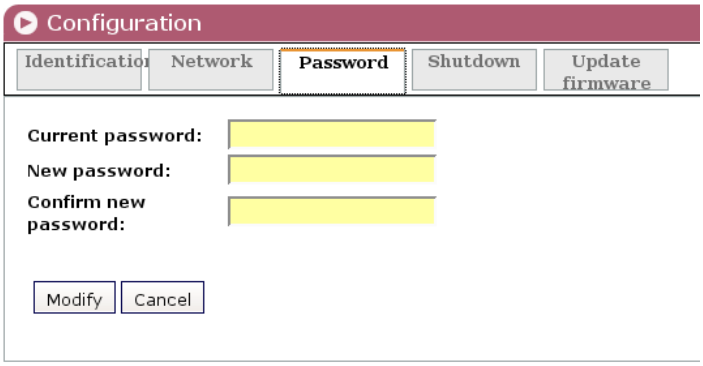


Figure 1.4 - Password card of the Configuration window.

"Current password": Enter the current password.

"New password": Enter the new password which will be required to access the program the next time.

"New password confirm": Re-enter the new password.

Once you have entered the required information, click on *Modify* so that the streamer adopts the new access password. If, at the last moment, you decide to keep the previous password, click on *Cancel*.

Note

If you do not know the old password, i.e. the password used to access the current configuration session, you must perform a Password Reset as explained in the Installation and Access manual. Following this reset, the program password will be the default password: admin.

IMPORTANT: When you perform a password reset, the IP address assigned to the streamer on the Network card (previous page) automatically changes to the default setting: http:// 92.168.1.4.

Shutdown

If you need to reboot the streamer for any reason, click on the Shutdown tab. The following card is displayed:

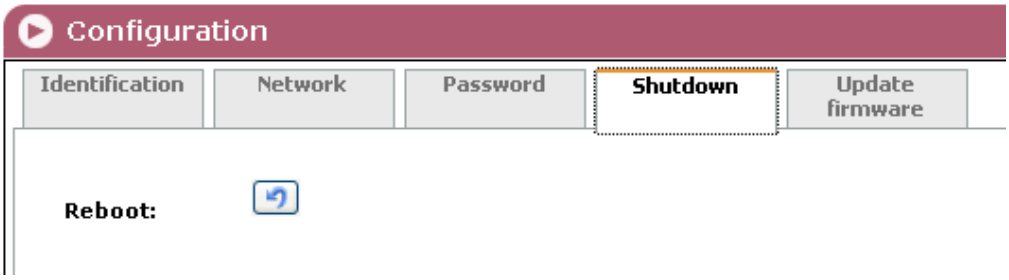


Figure 1.5 - Shutdown card of the Configuration window.

Click on *Reboot*. A reset is then performed after which the Output Streams screen will appear, this is the presentation screen of the program.

Update Firmware

If you wish to update the streamer's firmware, click on the Update Firmware tab. The card displayed (Figure 1.6) shows the firmware version that the streamer has at the present time.

(The firmware is software stored in the module which is responsible for its basic operation).

Figure 1.6 - Update Firmware card of the Configuration window.

WARNING: The firmware update file will have been previously stored on the PC hard drive. (You can download it from http://www.ikusi.com).

Click on *Browse...* and select the firmware update file from the hard drive. When the file name is in the box, click on *Start*. The new firmware will be installed on the streamer and then its name will appear in the card replacing the one of the file before.

Save/Restore System Settings

All of the data established on the streamer module through the various Configuration window tabs can be saved onto a backup file. Inversely, the configuration data saved on an appropriate file can be restored on streamer module.

Click on the **General** menu on the left of the general program screen and click again on the *Save/Restore* option. The Save/Restore window will appear:

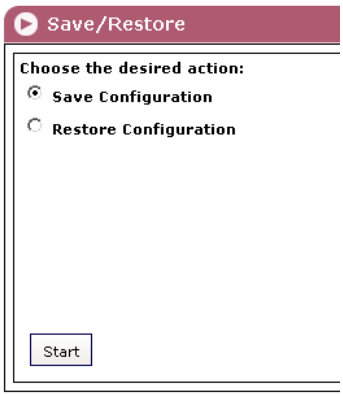


Figure 1.7 - Save/Restore window

Save/Restore Configuration

"Save configuration": Select the option in the window and click on *Start*. A window is displayed which allows you to select the destination folder for the data file for the current streamer configuration.

"Restore Configuration": Select this option in the Save/Restore window (Figure 1.7) and click on *Start.* The Restore Configuration window is displayed (Fig. 1.8) Click on *Browse...* and select the file containing the configuration data that you wish to restore on the streamer module. Once you have selected the file, click on the *Upload File button* at the bottom of the screen. The upload confirmation window will be displayed.

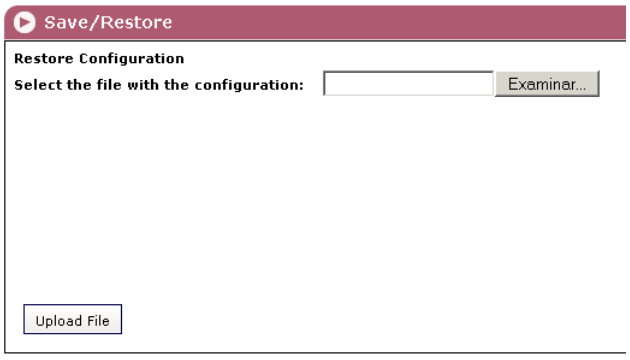


Figure 1.8 - Restore Configuration Window

General Report

Click on the **General** menu on the left of the general program screen and click again on the *General Report* option. The General Report window is displayed:

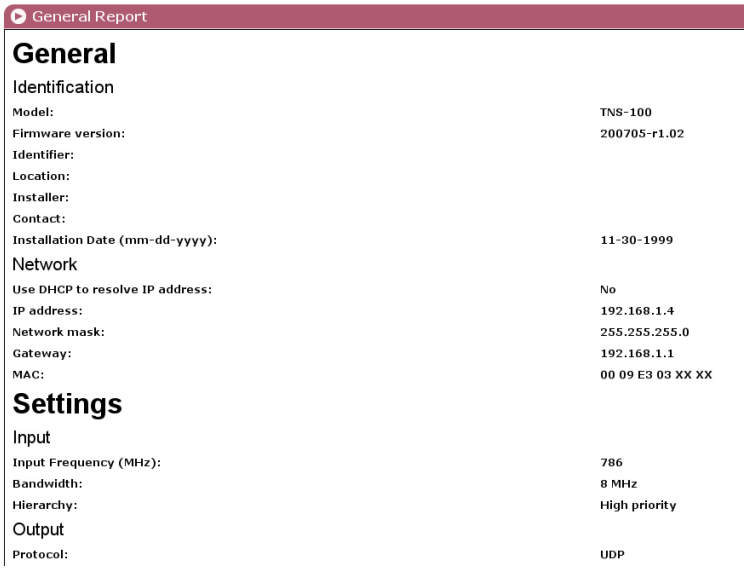


Figure 1.9 - General Report window

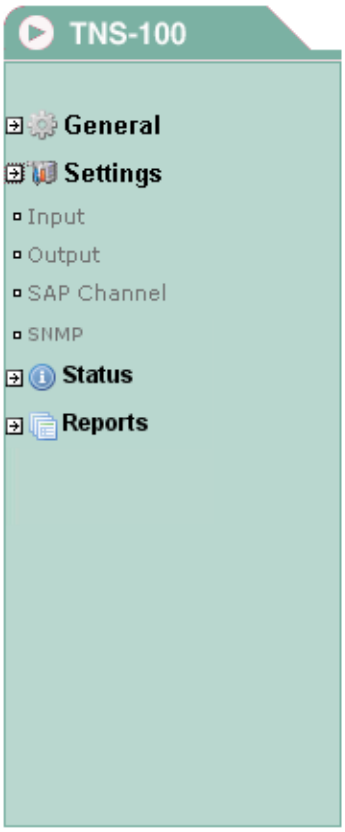
This window provides complete information on the TNS-100 module, not only regarding the configuration described in the previous pages, but also in relation to the current settings parameter values and operational status.

The information contained in this window can be printed by clicking on the *Print page* button at the bottom of the screen.

Chapter Two - TNS-100 Streamer Settings

In this Chapter

- Input Settings
- Output Settings
- SAP Channel Settings
- SNMP Configuration



Input Settings

The TNS-100 module settings are grouped into four sections or categories: Input, Output, SAP Channel and SNMP. Click on the **Settings** menu on the left side of the general program screen. A drop down list with the four option for this menu is displayed: *Input, Output, SAP Channel* and *SNMP.*

Click on *Input.* The Input window will appear:

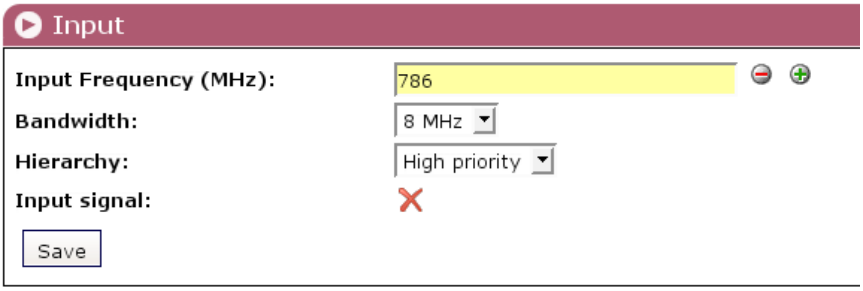


Figure 2.1 - Input window

This window is used to enter the settings values for three parameters: Input Frequency (MHz), Bandwidth (MHz) and Hierarchy. In addition, it informs whether the streamer module has synchronised or not with the input signal.

"Input Frequency (MHz)": Enter the central frequency of the input channel. The operation band is 174-230 MHz and 470-862 MHz.

"Bandwidth" : It is the channel bandwidth. Select 7 or 8 MHz from the drop down list.

"Hierarchy" : This parameter refers to the hierarchy of the bit stream's channel coding and modulation. According to it, select High Priority or Low Priority from the drop down list. In the absence of hierarchy one must select High Priority.

Click on *Save* so that the streamer adjusts to the the different data values entered.

"Input signal": This indicates if the streamer module has synchronised (✓) or not (✖) with the input signal. If it has not synchronised, check the setting values that appear in the three boxes.

Output Section Settings

Click on the **Settings** menu on the left of the general programme screen and click again on the *Output* option. The Output windown will appear:

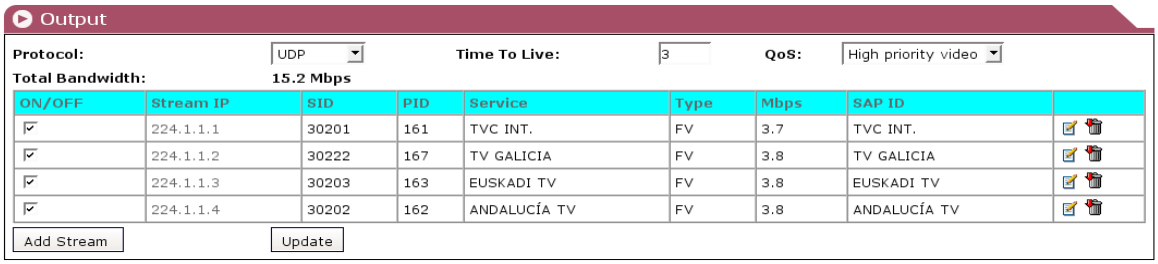


Figure 2.2 - Output window

This window is used to select and configure the required services (TV or Radio programmes) from the DVB-T input transport stream as IP streams. The window displays three boxes at the top, and in the centre it displays a table showing the IP streams already configured and which may or may not be transmitted by the streamer module (see NOTE below). For each stream it shows the multicast address and the different parameters such as the PID of the main stream or the total bandwidth in Mbps.

"Protocol": The drop down menu offers two options : UDP and UDP/RTP. UDP is a transport protocol which is not connection oriented and is particularly useful for streaming. UDP/RTP adds extra data fields so that the data flow is served at the correct speed for its projection in real time.

"Time To Live": Is a parameter used to restrict the stream multicasting range. A number between 1 and 255 is entered in this box. Each time that an IP stream passes through a router, the TTL is reduced by one unit. The stream will be rejected by any router when the TTL value is reduced to zero.

"QoS": Quality of Service. The drop down list offers five differentiated service options or *Diffserv.* These options relate to the priority that you wish to assign to the streaming packets on their routes through switches or routers that are QoS management capable:

1 Maximum priority
2 High priority video
3 Low priority video
4 Video and voice
5 Best effort (best effort made to correctly deliver the video data and the associated audio data)

NOTE: Configured IP Streams are those that have been created in the manner described on the following page. These streams may or may not be incorporated into the data stream depending on whether their corresponding ON/OFF boxes in the first column are checked or not. The number of checked boxes cannot be more than 8.

The Output window allows you to perform three actions:

- *Add Stream*: This adds a new IP stream to the display table.
- *Edit Stream*: Allows you to change the parameters of the IP stream on the display table.
- *Delete Stream*: Deletes an IP stream from the display table.

Add Stream

Click on the *Add Stream* button at the bottom of the Output window (see Figure 2.2 on the previous page). The Add Stream window is displayed:

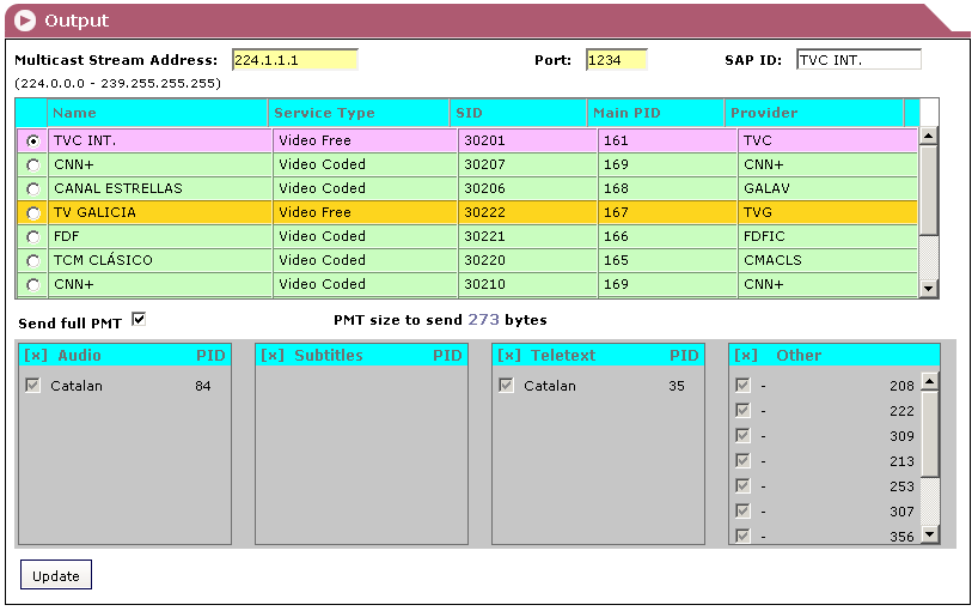


Figure 2.3 - Add Stream window

The window shows all of the input DVB-T transport stream services, including different details (name, type, identifier, main PID, provider). Highlighted in orange are those services which are already configured as IP streams (seen in the display table in the Output window) and highlighted in green are those which are not yet configured.

To add a stream to the display table, select the button for the corresponding service in the first column. The line will be highlighted in pink and at the bottom of the screen a group of boxes will appear which relate to the elemental streams associated with the main stream of the service.

The boxes at the top and middle of the screen will now be completed, and the elemental streams at the bottom will be configured:

Boxes at the top of the screen:

"Multicast Stream Address": Enter the multicast address required for the stream to be added. The available range is from 224.0.0.0 to 239.255.255.255, but it is recommended to reduce it from 224.0.1.0 to 238.255.255.255. See NOTE below.

"Port": The default value is 1234.

"SAP ID": Is the name given to the service on the subscriber's set-top box or reproducer, if the device supports SAP/SDP protocol. The name that the service has on the input transport stream is the default name.

"Channel Number": Enter the order number you want to assign to the service on the subscriber's set-top box or reproducer, if the device supports SAP.

"SAP Group": Select from the drop down menu the SAP group to which you want to link the service. The group will have been previously created through the SAP/SDP Channel window (see next page).

Box in the middle of the screen:

"Send full PMT": Leave this box checked if you wish to send the complete PMT table (Program Map Table) for the service. Otherwise, if you would like to refrain from sending certain PIDs that are not relevant to the elemental streams associated with the main stream (bottom boxes) remove the check from the box.

Bottom boxes:

Only in cases where the "Send full PMT" box is NOT checked can you make the selections that you wish on each of the elemental streams associated with the main stream: audio, subtitles, teletext, etc.

Once all data is entered and the appropriate selections have been made, click on *Update* to add the new IP stream to the display table in the Output window.

Edit Stream:

You can change the parameters of an IP stream displayed in the table on the Output window. Click on the icon at the end of the line. The previously described Add Stream screen is displayed, where you can change any editable field, from the multicast address to the elemental stream selections in the boxes at the bottom.

Once all changes that you require are made, click on *Update* and the IP stream will be displayed with its new configuration in the display table in the Output window.

Delete Stream:

If you wish, you can delete an IP stream from the display table on the Output window. To do so, click on the icon at the end of the line.

NOTE : Range 224.0.0.0 through 224.0.0.255 is reserved for local purposes (as administrative and maintenance tasks). Datagrams destined to this use are never forwarded by multicast routers.

Similarly, the range 239.0.0.0 to 239.255.255.255 has been reserved for "administrative scoping" (administratively defined topological regions).

SAP Channel Settings

Click on the **Settings** menu on the left of the general programme screen and click again on the *SAP Channel* option. The SAP Channel window will appear:

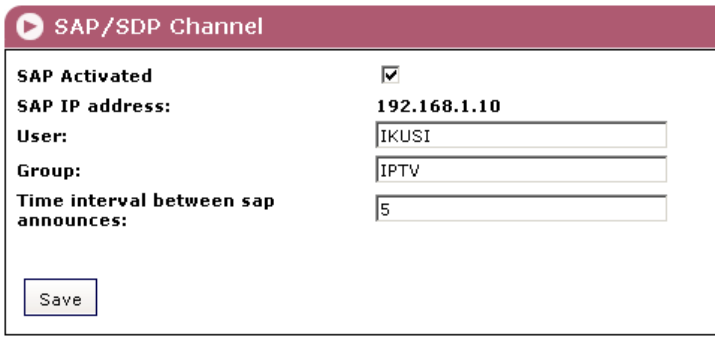


Figure 2.4 - SAP Channel window

This menu option is used to configure the announcement and service description SAP/SDP channel. SAP and SDP are two protocols for creating an EPG type program guide.

"SAP Activated": Check the box if you wish to transmit the program guide.

"SAP IP address": This data cannot be changed. It is the IP address assigned to the streamer module on the Network tab in the Configuration window (page 8).

"Username": The name entered will be transmitted on the SAP/SDP channel.

"Group": As above.

"Time interval between SAP announcements": Introduce the time interval, in seconds, at which the transmitted programmes guide will refresh.

Click on *Save* to save the SAP/SDP channel configuration data.

SNMP Configuration

Click on the **Settings** menu on the left of the general programme screen and click again on the *SNMP* option. The SNMP Agent window will appear:

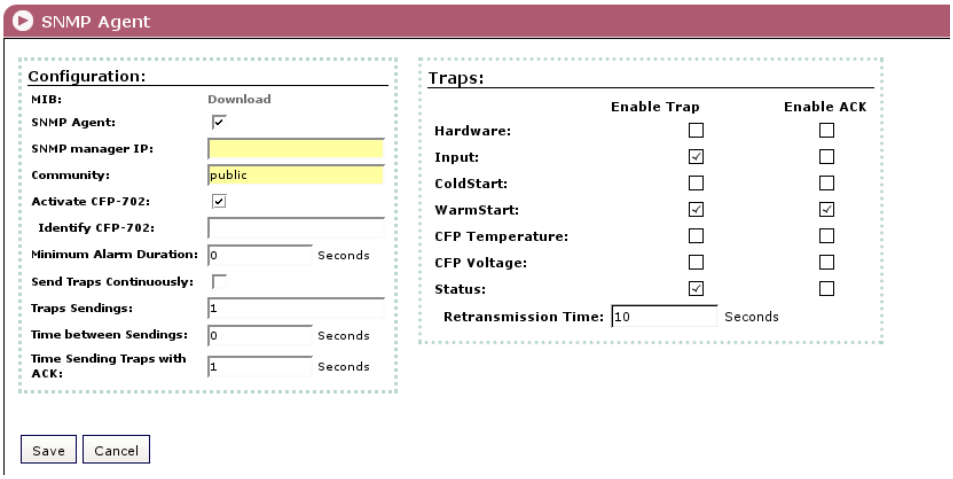


Figure 2.5 - SNMP Agent window

This window is used to configure the notification of determined traps the SNMP manager (management station). It has two sections: **Configuration** and **Traps**.

Configuration Section :

"MIB" : Click on *Download* to download the MIB of the TNS-100 streamer.

"SNMP Agent" : Tick the box if you want to activate the SNMP agent implemented in the streamer module.

"SNMP Manager IP" : Enter the IP address of the manager.

"Community" : Enter the desired name for the group formed by the streamers and power supplies of the present TNS headend, and by the manager.

"Activate CFP-702" : Tick the box in the case the streamer module is linked to a CFP-702 power supply and you want to integrate this into the management system. (See Fig. 2.6 on next page).

"Identify CFP-702" : Enter a name for the CFP-702 linked to the present streamer module.

"Minimum Alarm Duration" : Enter the minimum duration in seconds of an alarm event so that it be considered as such by the SNMP manager.

"Send Traps Continuously" : Tick the box if you want that to an alarm event the related trap be sent repeatedly to the manager. If this box is ticked, the two next ones are disabled.

"Trap Sendings" : Enter the times to an alarm event you want to send the corresponding trap to the manager.

"Time between Sendings" : It is related to the box before. Enter the time in seconds between the trap sendings.

"Time Sending Traps with ACK" : It is applicable to traps with ACK enabled. Enter the maximum time in seconds to an alarm event the trap will be being sent continuously until having an acknowledgement from the manager.

Traps Section :

You select here the streamer parameters whose alarm status generate traps, either with or without acknowledgement.

"Hardware" : Tick the box for sending an alarm trap when there be an anomaly in the streamer's circuitry. If you want to receive an acknowledgement from the SNMP manager, tick also the Enable ACK box at right.

"Input" : Idem when there be no synchronisation with the input signal.

"ColdStart" : Idem when there be a Cold Start (the power is turned off then back on).

"WarmStart" : Idem when the module is rebooted (through the Shutdown card of the Configuration window, see page 9).

"CFP Temperature" : It is applicable only if the streamer module is linked to a CFP-702 power supply, with the object of incorporating this to the SNMP system. It is related to the internal temperature of the power supply. Tick the box so that the alarm trap be transmitted when this temperature exceedes the established limits.

"CFP Voltage" : Idem in relation to the +12V output voltage of the power supply.

"Status" : Tick the box for sending a "summary" trap with the current status of the most outstanding parameters.

"Time between Sendings" : This box is enabled only if you ticked the previous one. Enter the desired time in seconds to pass between "summary" trap sendings.

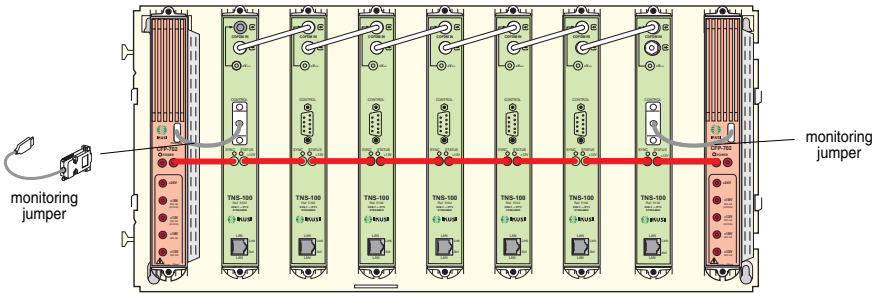
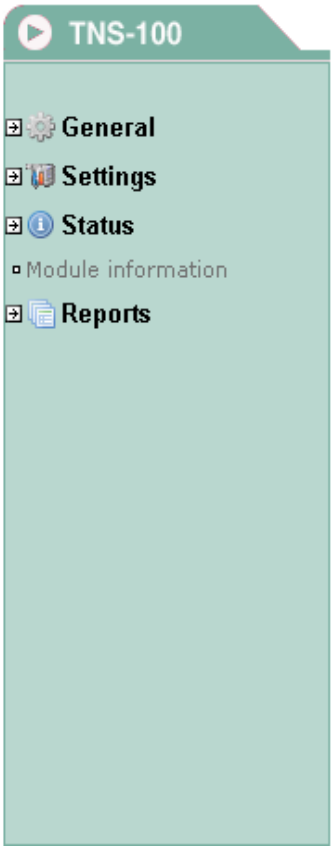


Figure 2.6 - Example of TNS Headend with monitor redundant power system. Contains 7 TNS-100 streamers and 2 CFP-702 power supplies.

Chapter Three - TNS-100 Streamer Status Information

In this Chapter

- Status Information



Status Information

Click on the **Status** menu on the left of the general program screen and click again on the *Status Information* option. The Status Information window appears:

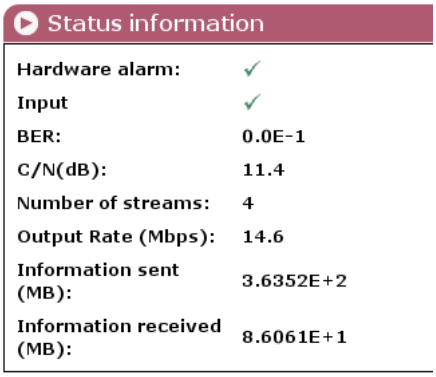


Figure 3.1 - Status Information window

This window gives you information on the existence of alarms for module operations and on the importance reception and transmission parameters:

"Hardware Alarm" : Indicates whether there is an anomaly in the modules circuitry. A ✓ mark indicates correct status or operations and a cross ✖ warns of an alarm situation.

"Input": Indicates whether there is (✓) synchronisation or not (✖) with the input signal. In cases where there is not synchronisation, check the settings made in the Input Settings (page 14).

"BER": Expresses in scientific notation the channel BER value for the input signal.

"C/N (dB)": The value in dB of the carrier/noise ratio of the input signal.

"Number of Streams": Number of IP streams currently transmitted by the TNS-100 module.

«Bandwidth»: Value in Mbps.

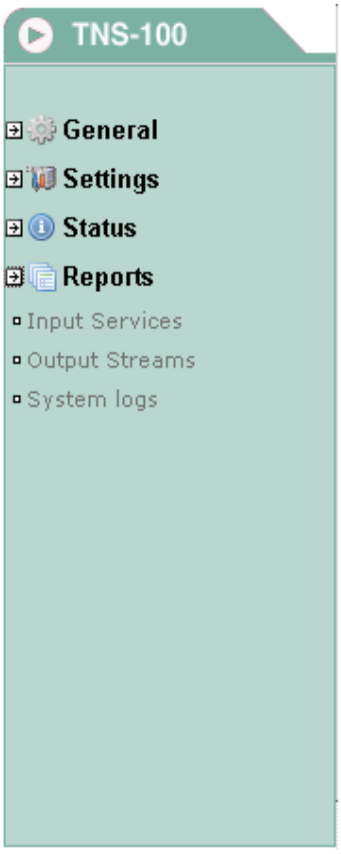
"Information Sent (MB)": Expresses in scientific notation, the amount of information (in megabytes) which has been transmitted by the internal web server since the last module reset.

"Information Received (MB)": The same for information received.

Chapter Four - TNS-100 Streamer Reports

In this Chapter

- Input Services
- Output Streams
- System Logs



Input Services

Click on the **Reports** menu on the left of the general program screen and click again on the *Input Services* option. The Input Services window appears:

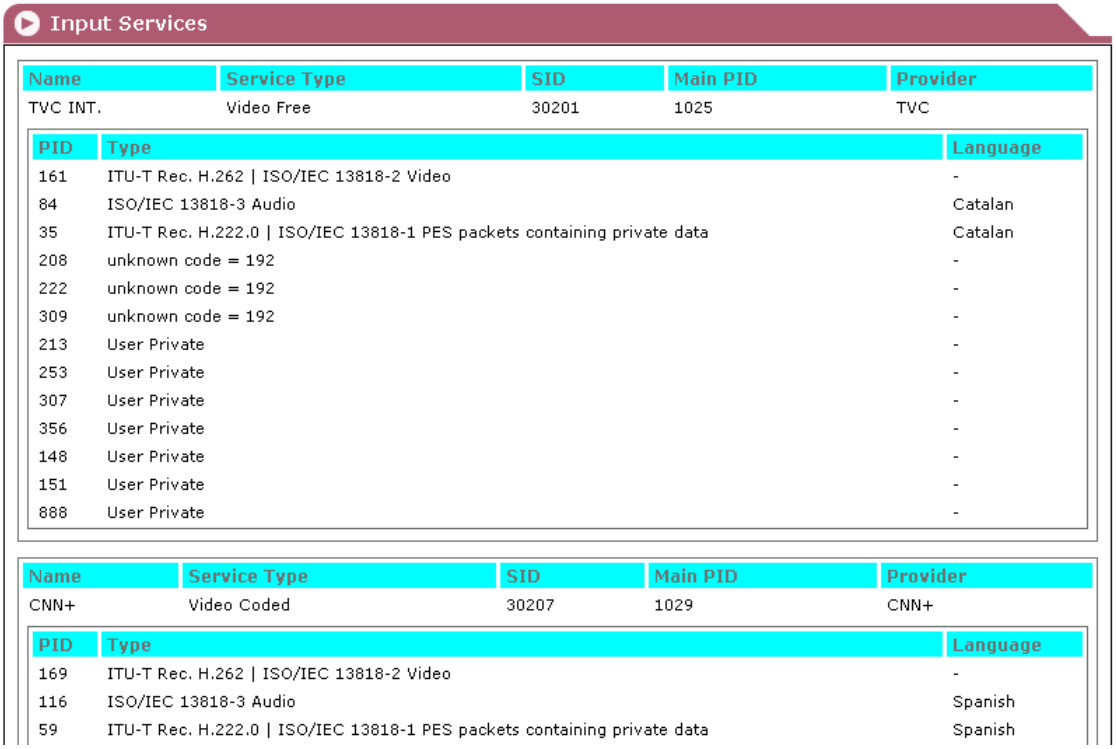


Figure 4.1 - Input Services Window

The Input Services window shows the full information on each of the services contained in the DVB-T input transport stream. In particular, it specifies the values of the following parameters for each service:

- Name of the service
- Type
- SID (service identifier)
- PID of the main stream
- Service Provider
- PID, Type and Language of each one of the elemental streams associated with the main stream

Output Streams

Click on the **Reports** menu on the left of the general program screen and click again on the *Output Streams* option. The Output Streams window will appear:

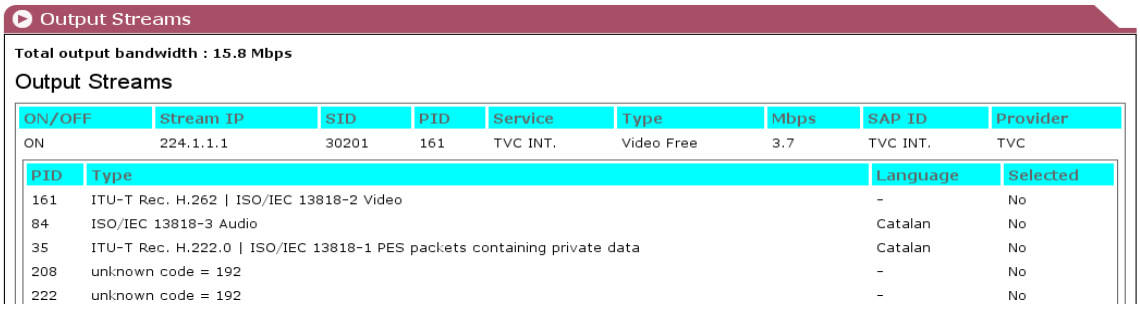


Figure 4.2 - Output Streams window

The Output Streams window shows all IP streams that have been created for this module. These streams may or may not be incorporated in the output data stream.

For each IP it shows the following details:

- ON/OFF (whether the stream is incorporated or not in the output data stream)
- IP Stream (multicast address)
- SID (service identifier)
- PID of the main stream
- Name of the service
- Type
- Total output bandwidth in Mbps
- SAP ID (name with which the service is announced on the subscriber's receiver)
- Service Provider
- PID, Type and Language of each one of the elemental streams associated with the main stream, indicating whether they are incorporated into the main IP output stream or not.

System Logs

Click on the **Reports** menu on the left of the general program screen and click again on the *System Logs* option. The System Logs window will appear:

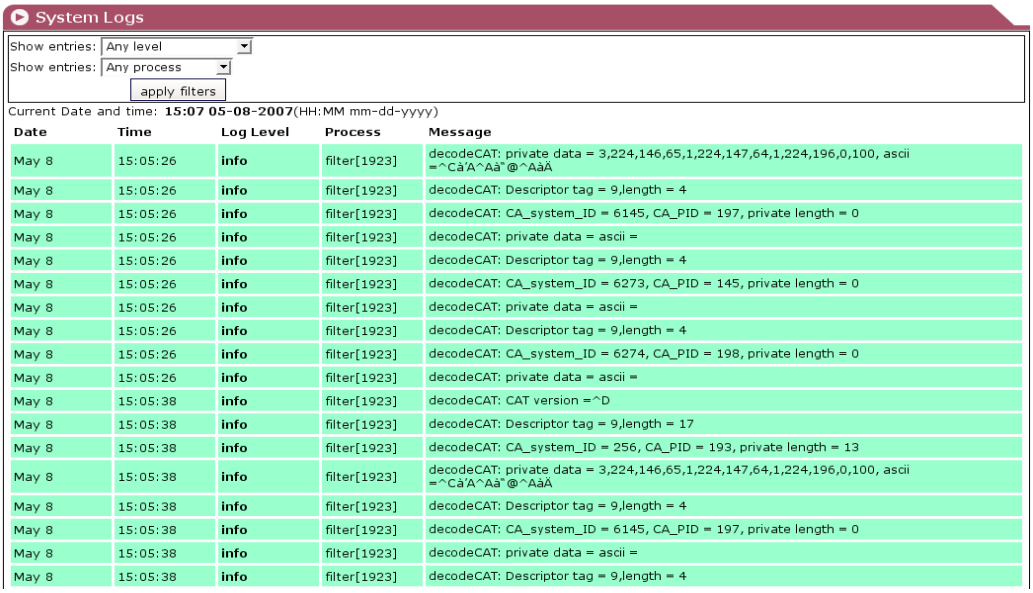

System Logs
Show entries: Any level
Show entries: Any process
apply filters
Current Date and time: 15:07 05-08-2007(HH:MM mm-dd-yyyy)
Date Time Log Level Process Message
May 8 15:05:26 info filter[1923] decodeCAT: private data = 3,224,146,65,1,224,147,64,1,224,196,0,100, ascii =^Cà'A^Aâ¨@^AàÄ
May 8 15:05:26 info filter[1923] decodeCAT: Descriptor tag = 9,length = 4
May 8 15:05:26 info filter[1923] decodeCAT: CA_system_ID = 6145, CA_PID = 197, private length = 0
May 8 15:05:26 info filter[1923] decodeCAT: private data = ascii =
May 8 15:05:26 info filter[1923] decodeCAT: Descriptor tag = 9,length = 4
May 8 15:05:26 info filter[1923] decodeCAT: CA_system_ID = 6273, CA_PID = 145, private length = 0
May 8 15:05:26 info filter[1923] decodeCAT: private data = ascii =
May 8 15:05:26 info filter[1923] decodeCAT: Descriptor tag = 9,length = 4
May 8 15:05:26 info filter[1923] decodeCAT: CA_system_ID = 6274, CA_PID = 198, private length = 0
May 8 15:05:26 info filter[1923] decodeCAT: private data = ascii =
May 8 15:05:38 info filter[1923] decodeCAT: CAT version =^D
May 8 15:05:38 info filter[1923] decodeCAT: Descriptor tag = 9,length = 17
May 8 15:05:38 info filter[1923] decodeCAT: CA_system_ID = 256, CA_PID = 193, private length = 13
May 8 15:05:38 info filter[1923] decodeCAT: private data = 3,224,146,65,1,224,147,64,1,224,196,0,100, ascii =^Cà'A^Aâ¨@^AàÄ
May 8 15:05:38 info filter[1923] decodeCAT: Descriptor tag = 9,length = 4
May 8 15:05:38 info filter[1923] decodeCAT: CA_system_ID = 6145, CA_PID = 197, private length = 0
May 8 15:05:38 info filter[1923] decodeCAT: private data = ascii =
May 8 15:05:38 info filter[1923] decodeCAT: Descriptor tag = 9,length = 4

Figure 4.3 - System Logs window

IKUSI - Ángel Iglesias, S.A.
Paseo Miramón, 170
20009 San Sebastián
SPAIN
Tel.: +34 943 44 88 00
Fax: +34 943 44 88 11
www.ikusi.com

EC-Declaration of Conformity

CE marking

We, Manufacturer

IKUSI, ***Angel Iglesias, S.A.***
Paseo Miramón, 170
E-20009 San Sebastián, Spain

declare that the product

DVB-T → IP Streamer

TNS-100

is in conformity with

Council Directive 89/336/EEC (EMC Directive)

Standards to which conformity is declared :

☒	**EN 55022**:1998	Information Technology Equipment. Radio disturbance characteristics. Limits and methods of measurement.
☒	**EN 55024**:1998	Information Technology Equipment. Inmunity characteristics. Limits and methods of measurement.

IKUSI

Angel Iglesias, S.A.

San Sebastián, May 10/2007

Marco A. Domínguez

R&D Manager

LANTV

DVB Digital Video Broadcasting CE

IKUSI

TNS-100 (Ref. 5102)	TNS-101 (Ref. 5114)

STREAMERS IP — DVB-T FTA/MULTICRYPT A IP
IP STREAMERS — FTA/MULTICRYPT DVB-T TO IP
STREAMERS IP — DVB-T FTA/MULTICRYPT VERS IP

MANUAL DE INSTALACION Y ACCESO / *INSTALLATION AND ACCESS GUIDE* / NOTICE D'INSTALLATION ET ACCÈS

	TNS-100	TNS-101
Interfaz Común / *Common Interface* / Interface Commune	**No / *No* / Non**	**Sí / *Yes* / Oui**

APLICACION

Los streamers TNS son pasarelas DVB-T a IP diseñadas para difundir en multicast sobre una red IP los servicios (cadenas TV y Radio) procedentes de recepción terrestre digital en abierto o encriptada. Los streams IPTV pueden ser visionados mediante un set-top box o un software reproductor de vídeo.

MANUAL DE CONFIGURACION Y AJUSTE
Disponible en formato PDF en
http://www.ikusi.com

APPLICATION

The TNS streamers are DVB-T to IP gateways designed to broadcast in multicast on an IP network the services (TV and Radio programmes) issued from FTA or Multicrypt digital terrestrial reception. The IPTV streams can be viewed using a set-top box or a software video player.

CONFIGURATION AND SETTING MANUAL
Available on PDF format on
http://www.ikusi.com

APPLICATION

Les streamers TNS sont passerelles DVB-T vers IP dessinées pour diffuser en multicast dans un réseau IP les services (chaînes TV et Radio) en provenance de réception terrestre numérique en clair ou cryptée. Les streams IPTV peuvent être visionnés avec une set-top box ou un logiciel lecteur de vidéo.

MANUEL DE CONFIGURATION ET REGLAGE
Disponible en format PDF sur
http://www.ikusi.com

Estaciones «TNS»

Una estación modular TNS incluye tantos módulos streamers como múltiples DVB-T haya cuyos servicios se desee transmitir a la red IP, y uno o más módulos de alimentación. Deberá insertarse un módulo CAM con la tarjeta del operador en los streamers TNS-101 que reciban una o más cadenas encriptadas que se desee desencriptar.

Los módulos se montan en las bases-soporte de fijación mural BAS-700 / BAS-900 ó en el soporte-rack SMR-601. A través de los puertos RJ-45 de salida —un puerto por streamer— la estación proporciona a la red IP hasta 8 x *n* servicios encapsulados IP, siendo *n* el número de módulos streamers instalados en la estación.

«TNS» Headends

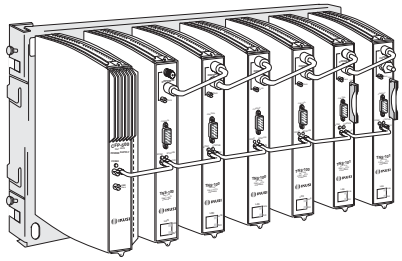
A modular TNS headend includes as many streamers as there are DVB-T channels whose services you want to broadcast on the IP network, and one or more power supplies. A CAM containing the operator's smart card must be inserted into the TNS-101 streamers that receive one or more encrypted programmes that you want to de-encrypt.

The modules are placed on the wall fixing BAS-700 / BAS-900 baseplates or the SMR-601 rack-frame. The RJ-45 output ports of the headend —one port per streamer— feed the IP network with up to 8 x n IP-encapsulated services, being n the number of streaming modules installed in the headend.

Stations «TNS»

Une station modulaire TNS inclut autant de streamers qu'il y a de canaux DVB-T dont les services l'on désire diffuser dans le réseau IP, et un ou plus de modules d'alimentation. On devra insérer un module CAM avec la carte d'opérateur dans les streamers TNS-101 qui reçoivent une ou plusieurs chaînes cryptées qu'on veut décrypter.

Les modules sont montés sur les platines à fixation murale BAS-700 / BAS-900 ou dans le cadre-rack SMR-601. À travers les ports RJ-45 de sortie —un port par streamer— la station rapporte au réseau IP jusqu'à 8 x *n* services encapsulés IP, étant *n* le nombre de modules streamers installés dans la station.



— Estación TNS de fijación mural para 6 múltiples TV Digital Terrestre. Contiene 4 TNS-100, 2 TNS-101 y 1 Alimentador CFP-500. La estación puede suministrar a la red IP hasta 48 streams IPTV multicast.

— TNS wall-fixing headend for 6 Digital Terrestrial TV channels. Contains 4 TNS-100, 2 TNS-101 and 1 CFP-500 Power Supply. The headend can feed the IP network with up to 48 multicast IPTV streams.

— Station TNS de fixation murale pour 6 canaux TV Numérique Terrestre. Contient 4 TNS-100, 2 TNS-101 et 1 Alimentation CFP-500. La station peut fournit au réseau IP jusqu'à 48 streams IPTV multicast.

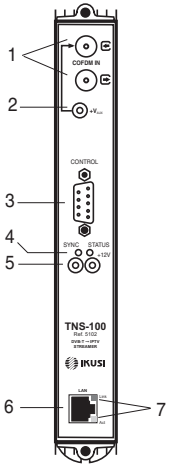
ACCESORIOS SUMINISTRADOS / *ACCESSORIES SUPPLIED* / ACCESSOIRES FOURNIS

- Con cada módulo streamer TNS se suministran 2 puentes :
- *Each TNS streaming module is packed with 2 bridges :*
- Chaque module streamer TNS est livré avec 2 ponts :

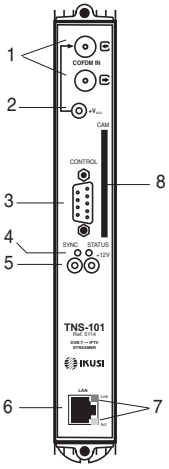
Puente coaxial F
F plug bridge
Pont F

Puente DC
DC plug bridge
Cavalier CC

DESCRIPCION DE PANEL / *PANEL DESCRIPTION* / PRESENTATION DU MODULE



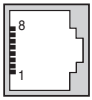
TNS-100



TNS-101

1	Lazo derivación entrada COFDM *COFDM input tap-loop* Boucle dérivation entrée COFDM	5	Hembrillas cascada alimentación DC *DC power cascade sockets* Embases cascade alimentation CC
2	Hembrilla telealim. preamp. mástil *Preampli remote-powering socket* Embase téléalim. préampli mât	6	Puerto RJ-45 - Salida stream IP *RJ-45 port - IP stream output* Port RJ-45 - Sortie stream IP
3	Puerto DB-9 para conexión de un terminal *DB-9 port for connection of a terminal unit* Port DB-9 pour la connexion d'un terminal	7	LEDs de control *Control LEDs* LEDs de contrôle **LINK** **ACT**
4	LEDs de control *Control LEDs* LEDs de contrôle **SYNC** **STATUS**	8	Slot para CAM *Slot for CAM* Slot pour CAM **CAM** (Conditional Access Module) *Conax, Cryptoworks, Irdeto, KeyFly, Mediaguard, Nagravision, Viaccess, etc.*

RJ-45 port



1 (Tx +)
2 (Tx -)
3 (Rx +)
6 (Rx -)

4 , 5 , 7 , 8 (N/C)

INDICADORES LED

SYNC

Las indicaciones del led SYNC deben atenderse cuando haya terminado el proceso de ajuste del streamer.

- Si luce verde permanente, el stream IP de salida es correcto.
- Si parpadea verde, no se ha adquirido la señal de entrada.
- Si está apagado y el led STATUS parpadea rápido rojo: error de firmware.

STATUS

- Si permanece apagado, el hardware funciona correctamente.
- Luce rojo mientras el módulo está ejecutando una operación.
- Si luce rojo permanente, hay una alarma de funcionamiento o el módulo está defectuoso.

LINK

- Luce verde permanente si hay enlace ethernet.
- Si está apagado, no hay enlace ethernet.

ACT

- Parpadea verde cuando hay actividad ethernet.
- Si está apagado, no hay actividad ethernet.

LED INDICATORS

SYNC

Indications of the SYNC led must be attended when the setting process of the streamer is finished :

- *If it lights green permanently, the output IP stream is correct.*
- *If it flashes green, the streamer has not acquired the input signal.*
- *If it is off and the STATUS led flashes red quickly: firmware error*

STATUS

- *If it is off, the hardware works correctly.*
- *It lights red while the module is carrying out an operation.*
- *If it lights permanently red , there is an operatigng alarm or the module is damaged.*

LINK

- *It lights green permanently if there is ethernet link.*
- *If it is off, there is not ethernet link.*

ACT

- *If flashes green when there is ethernet activity.*
- *If it is off, there is not ethernet activity.*

INDICATEURS LED

SYNC

Les indications de la led SYNC doivent être considérées seulement quand le réglage du module soit terminé :

- Si s'illumine verte en permanence, le stream IP de sortie est correct.
- Si clignote verte, le streamer n'a pas acquis le signal d'entgrée.
- Si est éteinte et la led STATUS clignote rapidement rouge : erreur de firmware.

STATUS

- Si est éteinte, le hardware marche correctement.
- S'illumine rouge pendant que le module est exécutant une opération.
- Si s'illumine rouge en permanence, il y a une alarme de fonctionnement ou le module est défectueux.

LINK

- S'illumine verte en permanence s'il y a de liaison éthernet.
- Si est éteinte, il n'y a pas de liaison éthernet.

ACT

- Clignote verte quand il y a d'activité éthernet.
- Si est éteinte, il n'y a pas d'activité éthernet.

Especificaciones técnicas / *Technical specifications* / Données techniques

Frecuencia de entrada *Input frequency* Fréquence d'entrée	**174-230 MHz** **470-862 MHz**
No. máx de programas desencriptados *Max number of de-encrypted services* (1) Nombre max de programmes décryptés	**Variable** (CAM depending)
Nivel de entrada (64QAM - R. cód. 2/3) *Input level* (64QAM - code r. 2/3) Niveau d'entrée (64QAM - Taux 2/3)	**35...100 dBµV**
Ganancia lazo de entrada *Input loop-through gain* Gain boucle d'entrée	**0.5** (±1) **dB**
Anchura de banda COFDM *COFDM Bandwidth* Largeur de bande COFDM	**7 / 8 MHz**
Velocidad de bit de salida *Output bit rate* Débit de sortie	**≤ 100 Mbps**

(1) Sólo para TNS-101 / *Only for TNS-101* / Seulement pour TNS-101

Número de streams simultáneos de salida *Number of simultaneous output streams* Nombre de streams simultanés de sortie		**≤ 8**
Tipo de dirección IP de los streams *IP address type of the streams* Type d'adress IP des streams		**Multicast**
Tensión de alimentación *Power voltage* Tension d'alimentation		**+12 VDC**
Consumo *Consumption* Consommation	**TNS-100**	**420 mA**
	TNS-101	**420 / 550** (2)
Temperatura de funcionamiento *Operating temperature* Températures de fonctionnement		**0 ... +45 °C**

(2) Sin/Con CAM / *Without/With CAM* / Avec/Sans CAM

Características

- Entrada: 1 canal digital DVB-T con servicios (cadenas TV o Radio) en abierto o (sólo en el TNS-101) encriptados. Salida: hasta 8 servicios simultáneos, encapsulados IP, con direcciones individuales multidifusión.
- Filtrado de la información contenida en las tablas DVB.
- Protocolos de transmisión UDP y RTP.
- Interfaz web para la configuración del módulo.
- Agente SNMP de información de alarmas.
- Protocolos SAP y SDP para selección automática de cadena en el STB y suministro de información de programa a servidores externos.

Features

- *Input: 1 DVB-T digital channel with FTA or (only in the TNS-101) encrypted services (TV or Radio programmes). Output: up to 8 simultaneous IP-encapsulated services with individual multicast addresses.*
- *Filtering of information contained in the DVB tables.*
- *UDP and RTP transmission protocols.*
- *Web interface for module configuration.*
- *Alarm information SNMP agent.*
- *SAP and SDP protocols to facilitate automatic programme selection in the set-top box and to provide programme information to external servers.*

Caractéristiques

- Entrée : 1 canal numérique DVB-T avec des services (chaînes TV ou Radio) en clair ou (seulement au TNS-101) cryptés. Sortie : jusqu'à 8 services (chaînes) simultanés, encapsulés IP, avec adresses individuelles multicast.
- Filtrage du renseignement contenu dans les tables DVB.
- Protocoles de transmission UDP et RTP.
- Interface web pour la configuration.
- Agent SNMP de renseignement d'alarmes.
- Protocoles SAP et SDP pour sélection automatique de chaîne sur la STB et fourniture de renseignement de programme à serveurs externes.

CARACTERISTICAS AVANZADAS
Filtrado PID
Análisis PSI/SI
Paso transparente mensajes ECM y EMM
Regeneración de tablas PAT y PMT
Paso o bloqueo de tablas CAT, NIT, SDT, EIT, TDT
Marcado QoS configurable
TTL configurable

ADVANCED FEATURES
PID filtering
PSI/SI parsing
ECM and EMM transparent passthrough
Regeneration of PAT and PMT tables
Passthrough or blockade of CAT, NIT, SDT, EIT and TDT tables
QoS marking configurable
TTL configurable

CARACTÉRISTIQUES AVANCÉES
Filtrage PID
Analyse PSI/SI
Passage transparent messages ECM et EMM
Régénération de tables PAT et PMT
Passage ou blocage de tables CAT, NIT, SDT, EIT, TDT
Marquage QoS configurable
TTL configurable

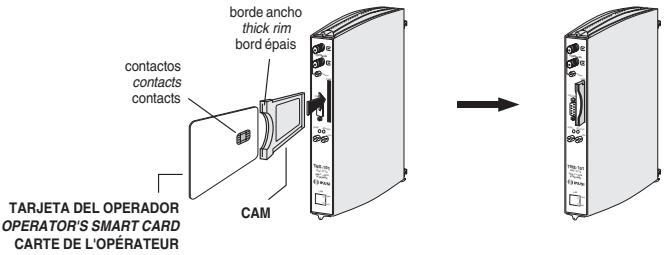
ASI : Asynchronous Serial Interface. Serial transmission method for MPEG-2 streams.
CAT : Conditional Access Table
ECM : Entitlement Control Messages
EIT : Event Information Table
EMM : Entitlement Management Messages
IPTV : Internet Protocol Television
MPTS : Multiple Program Transport Stream
NIT : Network Information Table
PAT : Program Association Table
PID : Packet IDentifier
PMT : Program Map Table
PSI : Program Specific Information
QoS : Quality of Service
RTP : Real-Time Transport Protocol
SAP : Service Advertisement Protocol
SDP : Session Description Protocol
SDT : Service Description Table
SI : Service Information
SNMP : Simple Network Management Protocol
SPTS : Single Program Transport Stream
TDT : Time and Date Table
TTL : Time to Live
UDP : User Datagram Protocol

Para una correcta visualización de los gráficos proporcionados por el programa de configuración del streamer, se recomienda instalar en el PC de control el navegador web **Mozilla FireFox**.
(www.mozilla.com).

*For correct visualization of the diagrams generated by the streamer configuration programme, it is advisable to install in the control PC the **Mozilla FireFox** web browser.*
(www.mozilla.com).

Pour une correcte visualisation des schémas générés par le programme de configuration du streamer, il est recommendable d'installer dans le PC de contrôle le navigateur web **Mozilla FireFox**.
(www.mozilla.com).

INSERCIÓN DE CAM Y TARJETA (sólo en modelo TNS-101)
INSERTING CAM AND SMART CARD *(only for TNS-101 model)*
INSERTION DU CAM ET DE LA CARTE (seulement en modèle TNS-101)

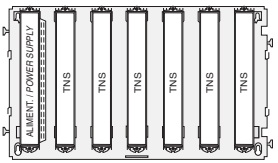


ORDENAMIENTO DE LOS MÓDULOS / *PLACING THE MODULES* / EMPLACEMENT DES MODULES

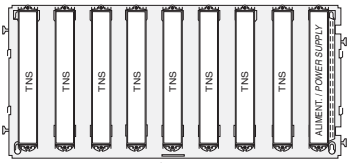
Las figuras muestran la disposición de los módulos en dos estaciónes TNS. El módulo alimentador debe colocarse en uno de los extremos del montaje.

The pictures show the layout of the modules in two TNS headends. The power supply module must be placed at one of the ends of the assembly.

Les figures montrent l'emplacement des modules dans deux stations TNS. Le module d'alimentation doit être placé dans l'un des bouts de l'ensemble.

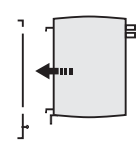


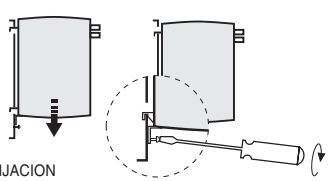
BAS-700

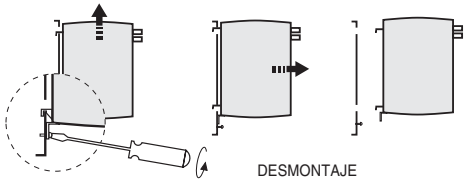


BAS-900

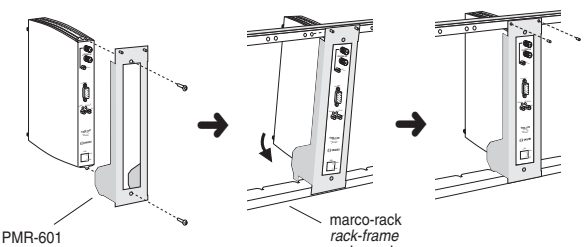
FIJACIÓN DE LOS MÓDULOS EN LAS BASES-SOPORTE
FITTING THE MODULES TO THE BASE-PLATES
FIXATION DES MODULES SUR LES PLATINES

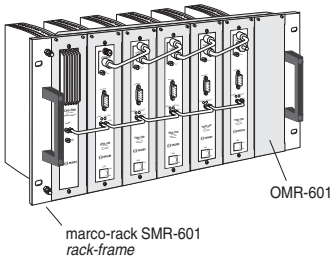

base-soporte
base-plate
platine


FIJACION
FITTING
FIXATION


DESMONTAJE
REMOVING
DÉMONTAGE

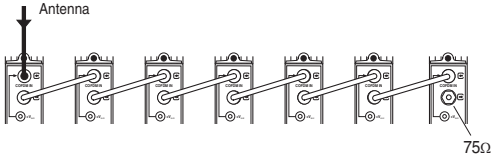
FIJACIÓN DE LOS MÓDULOS EN EL MARCO-RACK
FITTING THE MODULES TO THE RACK-FRAME
FIXATION DES MODULES SUR LE CADRE-RACK



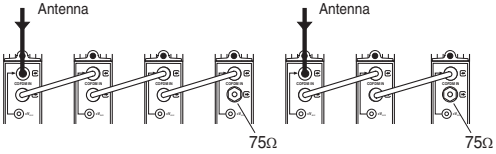


Instalación puentes derivación entrada / *Installing input tap bridges* / Installation ponts dérivation entrée

- Se creará 1 línea de derivación por cada bajada de antena. El cable se conecta a la puerta de entrada (conector superior) del primer módulo de la cascada.
  El extremo libre de la(s) línea(s) debe cargarse con 75Ω.
- *1 tap-line must be created per each down-lead cable. The cable is connected to the input port (upper connector) of the first module of the cascade.*
  The unused port of the tap-line(s) must be blocked with a 75Ω load.
- 1 ligne de dérivation doit être créée pour chaque câble de descente d'antenne. Le câble est connecté au port d'entrée (connecteur supérieur) du premier module de la cascade.
  Le port inutilisé des ligne(s) de dérivation doit être chargé par un bouchon 75Ω.

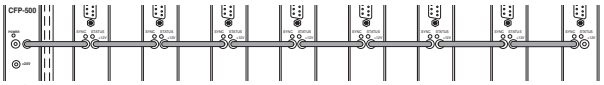


a) 1 cable de bajada
1 down-lead cable
1 câble de descente



b) 2 cables de bajada
2 down-lead cables
2 câbles de descente

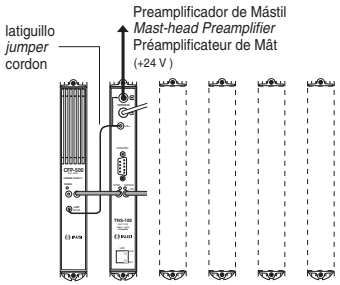
Instalación puentes de alimentación +12 VDC / *Installing DC bridges* / Installation cavaliers d'alimentation +12 VCC



Módulo de Alimentación
Power Supply
Alimentation

Instalación del latiguillo de telealimentación para un eventual preamplificador de mástil
Installing the powering jumper for a possible mast-head preamplifier
Installation du cordon de téléalimentation pour un éventuel préamplificateur de mât

- Conectar un extremo del latiguillo a la hembrilla +VAUX del módulo streamer al que llega la bajada de antena, y el otro a la hembrilla +24V del módulo de alimentación.
- *Plug one end of the jumper to the +VAUX socket of the streaming module to which the down-lead cable arrives, and the other end to the +24V socket of the power supply module.*
- Enficher un bout du cordon à l'embase +VAUX du module streamer auquel arrive le câble de descente d'antenne, et l'autre à l'embase +24V du module alimentation.



ACCESO LOCAL A LOS STREAMERS

Una vez instalada la estación TNS, deberán configurarse y ajustarse (*) **uno por uno** todos los módulos streamers que la componen. El proceso debe llevarse a cabo en modo local, aun cuando posteriormente se podrá acceder a cada módulo desde cualquier PC de la LAN para comprobar su estado de funcionamiento, o variar su configuración y ajuste, u obtener informes diversos.

Para el acceso local a los módulos se utilizará un PC con tarjeta de red Ethernet y un cable ethernet CAT-5E cruzado. El PC debe estar configurado con los siguientes parámetros de *Propiedades de TCP/IP*:

Dirección IP del PC : 192.168.1.1

Máscara de subred : 255.255.255.0

Empezar por el primer módulo. Conectar el PC a su puerto LAN (RJ-45) de salida (ver figura abajo). Iniciar el navegador web e introducir la dirección IP inicial de fábrica que tienen todos los streamers :

Dirección IP inicial : **http://192.168.1.4**

Pulsar INTRO. Aparece la pantalla de presentación del programa de configuración y ajuste (ver abajo), en la que debe introducirse la clave de acceso inicial de fábrica:

Clave de Acceso inicial: **admin**

Pulsar INTRO. Se muestra la pantalla inicial del programa.

IMPORTANTE

Las mencionada dirección IP inicial de cada streamer deberá ser cambiada desde el programa por otra cuya sección subred sea la de la LAN. Se recomienda cambiar asimismo la clave inicial de acceso al programa.

Las nuevas direcciones IP de los streamers y la clave de acceso al programa de configuración y ajuste deberán ser anotadas en sitio seguro para evitar tener que hacer un reset de acceso (ver en página siguiente) cuando se pretenda acceder a los módulos y se desconozcan las actuales direcciones IP de los mismos y/o la clave de acceso al programa.

*El proceso de configuración y ajuste se explica en el manual correspondiente disponible en http://www.ikusi.com.

LOCAL ACCESS TO THE STREAMERS

*After installing the TNS headend, you must configure and set (*) **one after the other** the streaming modules that make up the headend. The process will be carried out in local mode, even if you will be able to accede later to each module from any PC of the LAN in order to check its operating status, to change its configuration and setting, or to obtain diverse reports.*

For local access to the modules you must use a PC provided with Ethernet adapter and a crossover CAT-5E ethernet cable. The PC must be configured with the following parameters of TCP/IP Properties:

IP address : 192.168.1.1

Subnet mask : 255.255.255.0

Open with the first module. Connect the PC to its output LAN port (see figure below). Start the web browser and enter the initial factory IP address that have all streamers :

Initial IP address : **http://192.168.1.4**

Press INTRO. The programme presentation screen of the configuration and setting programme appears (see below). Then type the initial factory access key:

Initial access key: **admin**

Press INTRO. The initial screen of the programme is shown.

IMPORTANT

The aforementioned initial IP address of each streamer must be changed through the programme into another whose subnet section be that of the LAN. It is advisable to change as well the initial access key for accesing to the programme.

The new IP addresses of the streamers and the programme access key must be noted in a safe place in order to spare to have to do an access reset (see on next page) when you want to accede the modules and you don't know the current IP addresses of them and/or the access key of the programme.

** The configuration and setting process is explained in the corresponding manual available on* http://www.ikusi.com.

ACCÈS LOCAL AUX STREAMERS

Une fois installée la station TNS, on devra configurer et régler (*) **un à un** les modules streamers qui la composent. Le processus sera réalisé en mode local, bien que postérieuremet on pourra accéder à chaque module depuis un PC quelconque du réseau LAN pour vérifier son état de fonctionnement, modifier son configuration et réglage, ou obtenir renseignements divers.

Pour l'accès local aux modules on devra utiliser un PC avec carte Ethernet et un câble éthernet CAT-5E croisé. Le PC doit être configuré avec les suivants paramètres de *Propriétés TCP/IP* :

Adresse IP du PC : 192.168.1.1

Masque de sous-réseau : 255.255.255.0

Commencer par le premier module. Connecter le PC au port LAN (RJ-45) de sortie du premier module streamer (voir figure en bas). Initier le navigateur web et saisir l'adresse IP initiale que ont tous les streamers :

Adresse IP initiale : **http://192.168.1.4**

Taper INTRO. L'écran de présentation du programme de configuration et réglage (voir ci-dessous) apparaît. Saisir le mot de passe initial d'usine :

Mot de Passe initial: **admin**

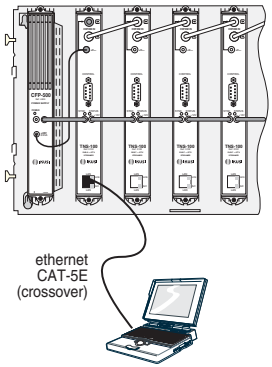
Taper INTRO. L'écran initial du programme est montré.

IMPORTANT

La mentionnée adresse IP initiale de chaque streamer doit être changée depuis le programme par une autre dont la section sous-réseau soit celle du LAN. De même il est recommendable changer le mot de passe initial d'accès au programme.

Les nouveaux adresses IP des streamers et le mot de passe d'accès au programme doivent être notés dans un place sûr afin d'éviter devoir faire un reset d'accès (voir à la page suivante) quand l'on prétende accéder aux modules et ne l'on connaisse pas les actuelles adresses IP de ceux-ci et/ou le mot de passe d'accès au programme.

* Le processus de configuration et réglage est expliqué dans le manuel correspondant disponible sur http://www.ikusi.com.



Pantalla de presentación del programa
Programme presentation screen
Écran de présentation du programme

Reset de acceso

Cuando hay que acceder a un módulo streamer y se desconocen su dirección IP y/o la clave de acceso al programa, la única salida es restaurar los valores iniciales de fábrica señalados en la página anterior.

Para la restauración se precisa un PC y un programa de comunicaciones tal como *HyperTerminal* de Windows. Conectar el PC al puerto CONTROL del panel frontal del módulo, mediante un cable DB-9 Null Modem (ver figura abajo). Inciar *HyperTerminal* y configurar la conexión con los siguientes parámetros:

- Formato: asíncrono
- Velocidad: 115 200 bps
- 8 bits
- 1 bit de parada
- No paridad
- Control flujo: ninguno

Conectar:

i) login: reset
ii) password: reset

Aparece un mensaje anunciando que se han restaurado la Dirección IP y la Clave de Acceso iniciales de fábrica (ver página anterior). Hacer reset desconectando y conectando la alimentación del módulo.

Access reset

When you have to accede to a streaming module and its IP address and/or the programme access key are unknown, the only solution is to restore the initial factory values pointed on the previous page.

For restoring you need a PC and a communication programme such as HyperTerminal from Windows. Connect the PC to the CONTROL port at the front panel of the module, by using a Null Modem DB-9 cable (see figure below). Start HyperTerminal and configure the connection with the following parameters:

- *Format: asynchronous*
- *Bit rate: 115 200 bps*
- *8 bits*
- *1 stop bit*
- *No parity*
- *Control of stream: none*

Connect:

i) login: reset
ii) password: reset

A message announcing that the initial factory values for IP Address and Access Key (see previous page) have been restored appears. Reset the module by switching on-off the power.

Reset d'accès

Quand il faut accéder à un module streamer et son adresse IP et/ou le mot de passe du programme sont inconnus, l'unique solution est restaurer les valeurs initiales d'usine signalées à la page précédente.

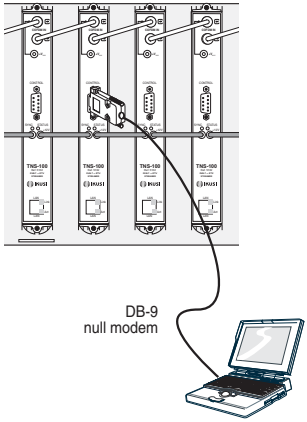
Pour la restauration on demande un PC et un programme de communications tel que l'*HyperTerminal* de Windows. Connecter le PC au port CONTROL à la face avant du module, par l'intermédiaire d'un câble DB-9 Null Modem (voir figure en bas). Initier *HyperTerminal* et configurer la connexion avec les paramètres suivants :

- Format: asynchrone
- Débit: 115 200 bps
- 8 bits
- 1 bit de stop
- Non parité
- Contrôle écoulement: aucun

Connecter:

i) login: reset
ii) password: reset

Un message apparaît en annonçant que l'Adresse IP et le Mot de Passe initials d'usine (voir page précédente) ont été restaurés. Faire reset en déconnectant et connectant l'alimentation.



CONEXION A LA RED LAN

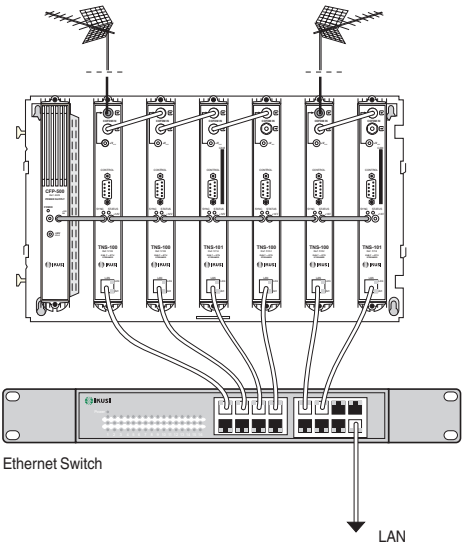
La conexión de la estación TNS a la red LAN se lleva a cabo a través de un switch ethernet al cual se conectará el puerto LAN (RJ-45) de salida de cada streamer utilizando cables ethernet CAT-5E.

CONNECTION TO THE LAN

Connection of the TNS headend to the LAN is carried out through an ethernet switch to which you must connect the LAN port (RJ-45) of each streamer using CAT-5E ethernet cables.

CONNEXION AU RÉSEAU LAN

La connexion de la station TNS au réseau LAN est effectuée à travers d'un switch (commutateur) éthernet auquel on doit raccorder le port LAN (RJ-45) de sortie de chaque streamer en utilisant câbles éthernet CAT-5E.



Acceso a los streamers desde la LAN

El acceso a cada módulo streamer de la cabecera puede llevarse a cabo desde cualquier PC de la LAN introduciendo en el navegador web la dirección IP que se ajustó para aquél.

Pulsar INTRO. Aparece la pantalla de presentación del programa de configuración y ajuste (ver abajo), en la que debe introducirse la clave de acceso ("admin" u otra si es que se cambió posteriormente).

Pulsar INTRO. Aparece la página inicial del programa.

Access to the streamers from the LAN

You can accede to each streaming module of the headend from any PC of the LAN. Enter into the web browser the IP address that was set for that module.

Press INTRO. The programme presentation screen of the configuration and setting programme appears (see below). Then type the access key ("admin" or another if it was changed later on).

Press INTRO. The initial page of the programme appears.

Accès aux streamers depuis le LAN

L'accès à chaque module streamer de la station peut être effectué depuis un PC quelconque du réseau LAN. Saisir dans le navigateur web l'adresse IP qui fut réglée pour le module.

Taper INTRO. L'écran de présentation du programme de configuration et réglage (voir ci-dessous) apparaît. Saisir le mot de passe ("admin" ou un autre s'il fut changé postérieurement).

Taper INTRO. La page initiale du programme est montrée.

Pantalla de presentación del programa
Programme presentation screen
Écran de présentation du programme

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